REMARKS

Claims 19-26 and 28-29 are pending in the application.

Examiner's Position

In the office action dated July 30, 2003 the examiner made the following objections and rejections:

(1) Various informalities of the specification were objected to;

(2) Claims 13-18 were rejected under 35 U.S.C. §112, first paragraph as allegedly not fully enabling all of the claimed subject matter; and

(3) Claims 13-18 were rejected under 35 U.S.C. 112, second paragraph as allegedly being indefinite.

Applicants respectfully traverse each of these rejections as follows.

Objections to the Specification

In response to the examiner's objections regarding the informalities in the specification, Applicants have made the following amendments to the specification. Applicants have submitted a new title which is more descriptive of the claimed invention. The abstract has been amended to correct a grammatical error in line 5. The status of the parent nonprovisional applications to which the instant application claims priority has been updated in the first paragraph of the specification. U.S. Application 09/687,860 is currently pending and U.S. Application 09/363,316 is now U.S. Patent No. 6,392,019. The Brief Description of the Drawings for Figures 4 and 5 has been amended to accurately describe the contents of each figure. The paragraph beginning at page 30, line 3 has been amended to update the status of U.S. Application Serial No. 09/620,312. The paragraph beginning on page 100, line 14 has been amended to correct the grammar of the last sentence. The paragraphs beginning on page 104, line 8; page 106, line 25, and pages 116-119 were amended to replace the term "s" with the term "sample" as well as to fix grammatical and spelling errors. The paragraph beginning on page 110, line 14 was amended to correct the figure reference. The paragraph beginning on page 111, line 1 was amended to delete the embedded hyperlink and replace it with the appropriate text reference. The paragraph beginning on page 120, line 4 was amended to correct an obvious typographical error. All of the changes made to the specification were minor and find support in the specification as originally filed; therefore no new matter has been added.

35 U.S.C. §112, First and Second Paragraph Rejections should be Withdrawn

All of the outstanding rejections are mooted by amendment of the pending claims with respect to cancer types and fragment language. Enablement issues with respect to the amended claims are discussed below.

With respect to enablement, the examiner alleged in the Office Action that the specification does not teach any methods or working examples that detect all cancerous cells expressing the polypeptide of SEQ ID NO: 24 or all possible fragments of SEQ ID NO: 24. Applicants submit that this rejection is mooted by the amendment of claim 13, support for which is found at least in originally filed claims 18-24. The examiner also alleged that while the specification teaches that EGFL6 mRNA transcript is expressed in prostate cancer, breast cancer, colon cancer, lymphoma, sarcoma, and brain cancer, the state of the art is such that protein expression levels cannot be *accurately predicted from the level of corresponding mRNA transcript* (Office Action p. 6) and that undue experimentation would be required to determine if there is a correlation between EGFL6 mRNA and protein expression in the cancer types mentioned in the claims. However, Applicants submit that it would not require undue experimentation to examine the relationship between mRNA and protein expression for the claimed cancer types. Routine immunohistochemical analysis using the EGFL6 antibody and the specific cancer tissues is well within the ability of one of skill in the art. Only undue experimentation is not permitted for allowance of claims. Routine experimentation to verify a claim is permitted and should not be held against applicants' insight into the use of the claimed antibodies as a cancer diagnostic. Furthermore, applicants filed a continuation-in-part application describing the results of these very same experiments to give further support to these claims (see U.S. Patent Application Publication No. US 2003/0036508-A1, Section 7.17, page 42, column 2, paragraph 365 through page 43, column 1, paragraph 369 including Tables 3 and 4 on pages 43-47), submitted herewith as Exhibit A. EGFL6 polypeptide was detected using immunohistochemical on various types of normal and tumor tissues with an anti-EGFL6 primary polyclonal antibody. All of the aforementioned tumor tissues (colon, pancreatic, prostate, lung, breast, and ovarian carcinomas, melanoma, and lymphoma) exhibited strong immunolocalization of anti-EGFL6 antibody across epithelial, melanocytic, and lymphocytic lineages. ERHy1 protein was distinctly differentially expressed in tumor tissue when compared to benign tissue in all tumor tissue types tested (see U.S. Patent Application Publication No. US 2003/0036508-A1, Section 7.17, page 42, column 2, paragraph 365 through page 43, column 1, paragraph 369 including Tables 3 and 4 on

pages 43-47). Therefore, Applicants submit that the claims are supported for the aforementioned cancer types.

The examiner also alleged that the specification does not contain methods or working examples that indicate that the EGFL6 polypeptide of SEQ ID NO: 24 is present in the claimed biological samples. Applicants respectfully submit that the specification contains adequate written description to enable a skilled artisan to detect the claimed EGFL6 polypeptide in biological samples. Page 96, lines 4-20 of the instant specification teaches detection of the claimed polypeptide in samples of the present invention "including cells, protein or membrane extracts of cells, or biological fluids such as sputum, blood, serum, plasma, or urine," using any one of the commonly available immunoarray formats which can be readily adapted to identify the claimed polypeptide. Applicants respectfully submit that immunoarray formats and means to modify said formats for specific antibodies were well known in the art at the time of filing. See the disclosed references as well as Harlow and Lane, Antibodies: A Laboratory Manual, pp. 553-612, Cold Spring Harbor, 1988. Therefore, one of ordinary skill in the art would understand how to identify the presence or absence of the EGFL6 polypeptide of the invention in any of the claimed biological samples using antibodies that recognize the EGFL6 polypeptide or immunogenic fragment thereof. Based on the disclosure of the methods along with the level of skill and knowledge in the art, one of skill in the art would recognize that the applicant was in possession of all the various methods necessary to practice the claimed invention.

CONCLUSION

On the basis of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance, and a Notice of Allowance is respectfully requested as soon as possible. If there are any questions regarding these amendments and remarks, or if further discussion would expedite allowance of the claims, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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